R1/5 5SR62

CONFIDENTIAL: Not to be quoted without reference to the Laboratory.

CRUISE REPORT

F.R.S. "SCOTIA"

27th April to 25th May, 1962

'Scotia' sailed from Aberdeen on 27th April and returned on 30th April after completing the Fladen line and 24 hours continuous sampling. The new spring-loaded grab was tested and found satisfactory. Leaving Aberdeen again on 1st May 'Scotia' surveyed the area from 58° to 59°N between 1° and 5°E before going into Stavanger for water on 7th May. 'Scotia' left Stavanger on 9th May and continued the survey northwards from 59° to 60°N between 1° and 4° E. A period of 24 hours was lost dodging in bad weather and the wind was increasing to gale when 'Scotia' entered Bergen on 16th May. Because of the gale sailing was delayed till 19th May when a start was made to a repeat of the survey between 59° and 60°N. Two lines of the survey were omitted because of delays due to bad weather. An attempt was made to carry out the Fladen line but the weather worsened and forced 'Scotia' to seek shelter in Aberdeen in the early morning of 25th May.

Plankton

During the collection of a large number of the Gulf III samples the filtration was greatly reduced due to the presence of phytoplankton. This low filtration, although it will be allowed for in the final analysis by the use of the flow meter data, made a preliminary analysis for comparative purposes rather difficult.

Meganyctiphanes norvegica was present in two distinct areas - in the Fladen and in the Norwegian Deeps. The Fladen line surveyed at the end of April showed only low numbers of Calanus to be present in that area. In the area east of 1°E Calanus numbers tended to be low in the east, increasing towards the west, but the main concentration was to the north of 59°N.

Observations on the phytoplankton in the surface water were made at hourly intervals along 59°40'N and 59°20'N from 1°E to 4°E. A small quantity of water was filtered through a membrane filter, the filter dissolved in acetone on a slide, a coverslip added, and the number of various forms counted during two traverses under the microscope.

The results were similar for both lines. Dinoflagellates, mostly Ceratium sp. were present at all stations but with a tendency to be more abundant near the >8°C water mass. Diatoms, mostly Chaetoceros sp. and Rhizosolenia sp. were markedly most abundant in the area from 1°E to 2°E.

Nine zooplankton feeding experiments were carried out, but the results must await laboratory analysis of the filters.

Due to weather conditions at the end of the cruise it was not possible to obtain live material for carrying out morerefined experiments ashore.

Hydrography

Surface temperatures ranged from 6.1°C to 9.0°C (uncorrected) being lowest to the south east and highest to the northwest of the area surveyed. Bathythermograph records showed a layer of colder water lying between two warmer layers over the Norwegian Deeps.

Echosounding

Concentrations of typical herring traces were found between 58°20'N and 59°20'N on the western edge of the Norwegian Deeps and small traces were recorded sparsely over the whole area.

Trawling

The Vinge trawl was shot on three occasions over herring traces. A total of 20 herring was caught.

GEORGE McPHERSON
J. A. ADAMS.

7th June, 1962.